

Learning Objectives

After reading this *CME Bulletin*, you should be able to:

- Identify and apply one intervention designed to enhance immunization coverage in your practice.
- Identify benefits and barriers to utilizing an immunization registry to reduce disparities in vaccination rates.

Using an Immunization Registry to Improve Vaccination Rates

KELLY GILMORE in consultation with DOUGLAS CAMPOS-OUTCALT, MD

Kelly Gilmore is a senior associate editor with the American Academy of Family Physicians.

Douglas Campos-Outcalt, MD, MPA, is associate chair of the Department of Family and Community Medicine at the University of Arizona College of Medicine, Phoenix, Ariz. He is also a scientific analyst for the American Academy of Family Physicians and one of two AAFP liaisons to the Centers for Disease Control and Prevention's Advisory Committee on Immunization Practices.

Jonathan Temte, MD, PhD, who served as medical editor for this Bulletin, is an associate professor of family medicine at the University of Wisconsin School of Medicine and Public Health, Madison. He currently serves as chair of the Wisconsin Council on Immunization Practices and is the other AAFP liaison to the Centers for Disease Control and Prevention's Advisory Committee on Immunization Practices. Dr. Temte also practices full-spectrum primary care medicine and trains family medicine residents at Wingra Family Medical Center.

Disclosure Statements: Dr. Campos-Outcalt, Dr. Temte and Ms. Gilmore have returned disclosure forms indicating that they have no financial interest in or affiliation with any commercial supporter or providers of any commercial services discussed in this educational material.

Vaccines are one of the best, and easiest, ways to protect the health of the public and eradicate disease. Vaccination is also one of the 10 Leading Health Indicators of Healthy People 2010.¹

Over the past 50 years, immunization has led to a greater than 95 percent decline in rates of most vaccine-preventable diseases.² Yet there are many obstacles to maintaining, and increasing, vaccination rates. Several factors contribute to the challenge of ensuring near-complete coverage. Among these are:

- Complex administration schedules,
- New vaccines and vaccine combinations,
- Patients changing providers,
- Relocation of patients and/or providers,
- Incomplete records³, and
- Costs and inconsistent coverage by payers.

In light of these factors, it is important that family medicine practices adapt and optimize their vaccination protocols to help ensure timely and complete coverage.

Role of the Medical Home

The approach to vaccine administration has shifted over the past two decades. A larger proportion of vaccines that once were administered in public health clinics are now provided by primary care physicians in the medical home.⁴ The medical home, as defined by the American Academy of Family Physicians, is the focal point individuals use to receive care for acute and chronic conditions, as well as preventive medical services. It emphasizes the ongoing relationship with a family physician, where patients can be assured of care that is not only accessible but also accountable, comprehensive, integrated, patient-centered, safe, scientifically valid, and satisfying to both patients and their physicians.⁵ Administering vaccines through the medical home results in increased immunization rates.^{6,7}

There is a variety of tools available to help family medicine practices optimize the medical home's design for vaccine administration. The Task Force on Community Preventive Services has reviewed and

recommended several interventions that have been shown to increase the number of children, adolescents and adults receiving immunizations.⁸ These interventions include:

- Vaccine provider reminder/recall: These interventions inform vaccine providers when patients are due or overdue for an immunization. Notification can be delivered in a variety of ways, including flagging patient charts, phone calls, e-mail, mail, or within an electronic medical record.
- Assessment plus feedback for providers: These interventions evaluate the practice's performance or an individual's performance in delivering one or more vaccines to a patient.
- Standing orders for adult patients: Standing orders allow non-physician providers, such as nurses, to administer vaccines without direct involvement of the physician at the time of the visit.⁸ By themselves, standing orders have been shown to increase adult coverage with universally recommended vaccines by a median of 51 percent.²

Primary and "catch-up" immunization schedules for children and adolescents have become increasingly complex. There is currently insufficient evidence to recommend standing orders for pediatric patients.

Other practice enhancements designed to boost immunization rates include identifying a vaccine "champion," whose job is to identify and translate new immunization recommendations, and a vaccine coordinator to organize the immunization process.⁹

Immunization Registries

One of the most important and useful tools a family medicine office can use to improve vaccination coverage is an immunization registry. These registries are computerized, confidential information systems that collect immunization data about patients, specifically children. This data can be entered at birth through electronic birth records, or at the time of the child's first immunization. Currently, some registries report such data on all patients within a geographical area, but others are practice-based.

While a practice-based registry may benefit the practice itself, it limits the ability to track immunization coverage over a wide area. Population-based registries can offer insight into the vaccination coverage of an entire area, highlight areas with low coverage, and identify needed interventions while also tracking coverage of patients within the practice. All 50 states have immunization registries in operation or in development.

One of Healthy People 2010's objectives is to increase to 95 percent the proportion of children younger than 6 years of age who are enrolled in fully operational, population-based immunization registries.¹ Data from 2005 show that we are a long way from achieving this goal; only 44 percent of private vaccination sites supplied information to an immunization registry between July and December 2005.¹⁰ This underscores the need for all family medicine practices to routinely use a registry if one is available in the community, as well as the need to increase the number of children who are enrolled in a registry.

Population-based registries, such as state registries, have strict confidentiality and security policies. Many states have laws allowing only authorized users to access registries. Statutory provisions are in place to protect providers from liability when making good faith disclosures to a registry or when relying on information from a registry. Other important statutory provisions include penalties for improper disclosure of information; provisions defining with whom immunization information can be shared; and provisions allowing parents to opt out or limit access to immunization registry information.¹¹

Benefits of Using a Population-based Registry

There are many benefits of using a population-based immunization registry in a family medicine practice. For example, such registries provide easy access to reliable immunization histories for any child, even if that child has received immunizations from different providers. This helps prevent overimmunization of new patients who can't or don't provide official documentation of vaccine history. Also, such information enhances the opportunity to immunize new patients that otherwise would be lost while identifying the location of old records or awaiting their transfer.

According to a recent study, about 22 percent of 1,352 children aged 19 to 35 months received immunizations from more than one provider. Immunization records from providers the children had seen most recently underestimated the number who were up to date on recommended immunizations. Twenty-three percent of those the provider classified as needing vaccines were, in fact, up to date and completely vaccinated.¹²

Electronically enabled population-based registries can relieve a practice of many of the administrative burdens associated with providing immunizations. For example, such registries can be used to:

- Track which vaccines have been administered to which patients and at what times;
- Aggregate sources of information about current and new vaccines;
- Produce patient reminders and recalls for due or overdue immunizations, which is particularly helpful after a vaccine shortage;
- Help manage vaccine inventories, supplies and expiration dates;
- Contribute to assessments of practice- and community-level coverage; and

- Produce an official immunization record, which reduces the amount of time office staff spend on the phone with child care providers and school personnel.

Some state-sponsored registries also include data such as results of newborn, hearing, vision and lead screening tests. These registries can also be used to access other databases, such as those associated with the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) and Medicaid programs.¹³ Greater benefits tend to accrue by incorporating immunization registry information into every visit.

Barriers to Implementation

Several recently published studies have identified barriers to participating in immunization registries.¹⁴⁻¹⁶ The most common barrier is the perception that there will be a significant cost to the practice, in terms of time and/or money, to put data into and/or extract data from a registry. One study showed that while the cost per shot did increase slightly after practices began using immunization registries, the overall amount of time staff spent to administer immunizations decreased in private practices and community health centers, making the immunization process more time efficient and, barring above-average salary increases, less costly.¹⁷

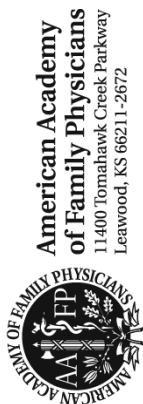
Other barriers include concerns about confidentiality and portability of the data, training personnel, and changing established office systems or starting new ones. The American Immunization Registry Association has identified best practices to overcome barriers to using an immunization registry. These practices include:

- Using a Web-based system;
- Identifying a key person in the office to develop process improvements;
- Providing a variety of opportunities for training, including on-site meetings, video or Web-based training;
- Providing access to toll-free help desks;
- Including a parent notification system so that parents will be informed about the registry and their child's inclusion; and
- Working closely with billing and EHR vendors to verify that the registry data are compatible with their systems.¹⁴

Getting Started

If your practice is currently using a practice-based immunization registry, check with your state health department to get more information about a state- or region-based (in larger cities) immunization registry. Most health departments employ registry program directors and information technologists who can provide you with information to help incorporate the registry in your practice. The Immunization Action Coalition also provides information about specific state registries (<http://www.immunize.org/states/>). If you are already using a state- or region-based immunization registry and suspect your practice may not be utilizing the full range of benefits that the registry can offer, obtain more information from your state health department and from the American Immunization Registry Association (<http://www.immregistries.org>) or Every Child By Two (<http://www.ecbt.org>). The Centers for Disease Control and Prevention (<http://www.cdc.gov/vaccines/programs/iis/default.htm>) also offers advice about how to enhance your current office procedures.^{15,18}

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CME Bulletin

Susanna Guzman
*Assistant Division Director
Online & Custom Publishing*

Marilyn Busby
CME Senior Program Specialist

Jonathan Temte, MD, PhD
Medical Editor

Kelly Gilmore
Editor

Bryan Colley
Graphic Associate

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Self-Assessment Quiz

- By what percentage have most vaccine-preventable diseases been reduced in the past 50 years through the use of vaccines?
A. 50 percent
B. 70 percent
C. 90 percent
D. 95 percent
- True or false: Administration of vaccines through the medical home is associated with improved immunization rates.
A. True
B. False
- Which of the following statement(s) regarding immunization registries is (are) true?
A. Immunization registries are computerized.
B. Immunization registries are confidential.
C. Immunization registries contain data on immunizations.
D. Immunization registries can be practice-specific or population-based.
E. All statements are true.
- Which of the following is not an example of a best practice to overcome barriers to implementing an immunization registry?
A. Using a Web-based system
B. Identifying a key person in the office to develop process improvements
C. Including a parent notification system so that parents will be informed about the registry and their child's inclusion
D. Ensuring that the registry is independent of and separate from a clinic's EHR
- True or false: Additional costs associated with immunization registries have been shown to be balanced by reductions in overall amount of time staff spend to administer immunizations in private practices and community health centers.
A. True
B. False

Answers: 1. D, 2. A, 3. E, 4. D, 5. A

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CME Bulletin Evaluation / Self-Assessment Quiz Answer Sheet

Note: On this scale, 5 is the highest rating, 1 is the lowest.

Relevance of topic to my practice	5	4	3	2	1
Currency of clinical information	5	4	3	2	1
Usefulness of clinical information	5	4	3	2	1
Overall rating	5	4	3	2	1

What changes will you make to your practice based on this information?

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Answers (Please circle one or more):

- | | |
|--------------|------------|
| 1. A B C D | 4. A B C D |
| 2. A B | 5. A B |
| 3. A B C D E | |

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